



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|------------------------|---------------------|------------------|
| 10/661,842 | 09/12/2003 | Edward William Sheehan | | 8545 |

7590 09/23/2004
Edward W. Sheehan
Chem-Space Associates
655 William Pitt Way
Pittsburgh, PA 15238

EXAMINER

SMITH, JOHNNIE L

ART UNIT PAPER NUMBER

2881

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,842

Applicant(s)

SHEEHAN ET AL.

Examiner

Johnnie L Smith II

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Drawings

1. The drawings were received on 06/26/04. These drawings are accepted.

Specification

2. The substitute specification filed 06/26/04 has been entered.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of

compending Application No. 10/688,021 in view of US patent 6,107,628 (Smith et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-19 only differ from claims 1-21 of the above compending application in that the limitation wherein a stratified body consisting of a plurality of elements, said elements comprise alternating layers of metal electrodes and insulating material, each said electrode having successively smaller apertures wherein said apertures form an ion-funnel having an entry at largest aperture of first metal electrode and an exit at smallest aperture of last metal electrode, said smallest aperture forming inlet aperture into said analytical apparatus. Smith teaches such limitations in the above referenced US patent (column 8 line 62-column 9 line 15). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Smith to have an ion funnel wherein the size and shape of the entry and exit apertures are defined as such that the acceptance region is larger than the emittance region for the purpose of controlling the size and shape of the beam or cloud of charged particles directed through the ion funnel (column 4 lines 5-57).

Response to Arguments

5. Applicant's arguments filed 06/26/04 have been fully considered but they are not persuasive. Applicant argues that copending application (App. No. 10/688,021), describes a stratified body consisting of a plurality of elements or laminated tube sandwiched between regions at different pressures for transferring ions created in the higher pressure region into the lower pressure regions by means of establishing a controlled DC potential gradient throughout the length of the tube until the viscous forces dominate in the downstream portions of the tube. Whereas the present application describes where the laminated lens focuses ions at or near atmospheric pressure by establishing favorable DC electric potentials between a laminated high-transmission surface and the laminated lens, transferring substantially all ions from dispersive sources through the high transmission surface, through the laminated lens, and into apertures or capillaries at the atmospheric-vacuum interface. But as discussed above the claims only differ in that in that the limitation wherein a stratified body consisting of a plurality of elements, said elements comprise alternating layers of metal electrodes and insulating material, each said electrode having successively smaller apertures wherein said apertures form an ion-funnel having an entry at largest aperture of

first metal electrode and an exit at smallest aperture of last metal electrode, said smallest aperture forming inlet aperture into said analytical apparatus. The above-cited reference of Smith et al taught such a limitation in combination. Accordingly, applicants argument that Smith et al apparatus includes a similar stratified device but operating at pressures of between 10⁻¹ millibar and 1 bar, substantially below atmospheric pressure, and is operated with a radio frequency (RF) field having a field-free zone down the axis of the device is considered moot, since Smith et al was introduced for the purpose of showing applicant's limitation of having an ion funnel wherein the size and shape of the entry and exit apertures are defined as such that the acceptance region is larger than the emittance region for the purpose of controlling the size and shape of the beam or cloud of charged particles directed through the ion funnel.

Conclusion

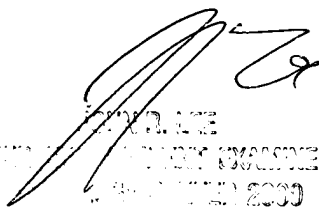
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the

advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnnie L Smith II whose telephone number is 571-272-2481. The examiner can normally be reached on Monday-Thursday 7-4 P.M. and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



JOHNNIE L. SMITH II
SENIOR EXAMINER
JUL 1 2009